

## REMARKS

### Claim rejections – 35 USC 102

1. Claims 1, 4 to 7, 9 to 13, 15, 17 to 19 and 21 have been rejected under 35 USC 102(b) as being anticipated by Brauer.
2. Brauer discloses an ankle brace having a body portion A which is intended to be wrapped around a wearer's ankle over their footwear. Referring to Figure 1, the body portion A extends from one front edge rearwardly across one side of the ankle, around the rear of the ankle, and forwardly around the other side of the ankle to another front edge, and the two front edges are laced together using eyelets a. Each side of the body portion A is formed with a hole a', which is shown in the drawings to be circular, to accommodate the portions of the footwear which protrude due to the protrusions of the wearer's ankle bone. A strap B is riveted to and extends downwardly the medial side of the body portion A. A buckle D is attached to the lateral side of the body portion A either by connecting piece C which is Y-shaped and is riveted to the lateral side of the body portion A, or by a semicircular piece C and a separate piece d which are riveted to the lateral side of the body portion A (page 1, lines 55 to 65). As shown in Figure 1, in use the strap B extends under the wearer's foot and is secured to the buckle D. The brace is made of leather or other flexible material (page 1, lines 25 and 26).
3. Although the applicant submits that previous independent claims 1, 17 and 21 were not anticipated by Brauer, claims 1, 17 and 21 have been further amended so as to emphasize the distinction of the claims over Brauer. In particular, claims 1, 17 and 21 have been amended to clarify the meaning of "extent" by specifying that the shell does not extend beyond its extents. Furthermore, claims 1, 17 and 21 has been amended to define that the inner surface is shaped to conform semi-rigidly to the side surface of a person's leg. A repetition of language in the independent claims has been corrected. Also, minor amendments of form, rather than substance, have been made.
4. The examiner has suggested that the Brauer discloses a shell for an ankle brace and that the shell is made of semi-rigid material, making reference to column 1, lines 21 to 23 of Brauer. That passage says, "... improvement in ankle-braces designed to be worn by skaters for the purpose of stiffening the ankle, ..." and continues by saying, "but at the same time permitting flexibility of the wearer's foot." The applicant submits that this passage does not infer anything about the rigidity or flexibility of the material from which the ankle brace of

Brauer is made. For example, an ankle brace could be made from rigid material, and yet be articulated so as to permit flexing of the foot. Moreover, the applicant notes that Brauer specifically states at page 1, lines 25 to 27, “The brace as an entirety is designed to be made of leather or other flexible material ...” The use of the word “other” infers that the leather is also flexible.

5. The meaning of the term “semi-rigid” has previously been discussed with the previous examiner in the response to the first office action on this application. For ease of reference, the applicant refers to his previous remarks:-

*The applicant submits that the terms “semi-rigid” and “semi-rigid shell” are established terms in the art of ankle braces having distinct meaning. Indeed, a definition of “semi-rigid” is given in other US patents to Wilkerson, for example US5902259 (Wilkerson) states at col. 3, ll. 37-42:*

*The shells are preferably semi-rigid, by which is meant that they are stiff enough so that the foot shell, for example, does not significantly lose its foot-contoured shape under normal maximum adult weight, but are flexible enough to be depressed to exert extra localized pressure against the ankle behind a tightly fitted strap.*

*A similar definition is given in given in US5445603 (Wilkerson) at col. 3, ll. 27-32.*

*A consistent definition is given in WO02/051343 (Moore), which states at page 4, ll. 12-17:*

*In the context of this specification, the term "substantially rigid" is not intended to imply that the shell is completely rigid. As is known in the art, the shell may have some degree of flexibility (sometimes described in the art as "semi-rigid"), but it is sufficiently rigid to provide support for the treatment area of the ankle and ligaments. The degree of flexibility that is provided may be chosen in dependence upon circumstances. For example, a shell that is to be used while playing sports may be provided with a greater degree of flexibility.*

*Other uses of this term occur, for example, in:*

*US2006/276736 (Devreese) “semi-rigid shell” para. 0006.*

*US2006/173393 (Sailhen) “semi-rigid lateral shells” para. 0021.*

*US2006/084899 (Verkade) “semi-rigid shell” para. 0031.*

*US6793640 (Avon) “semi-rigid support” para. 0018.*

*US2003/204157 (Cropper) “semi-rigid support member” para. 0010.*

*US6602215 (Richie) “the support stirrup is a semi-rigid member” para. 0020.*

*US2003/014001 (Martin) “semi-rigid polypropylene”. 0015, 0020*

*WO02/065942 (Hsiao-Weckslar) “semi-rigid shell” pg. 5, ll. 18-25.*

*US2002/029009 (Bowman) “semi-rigid plastic shells” para. 0011.*

*US6053884 (Peters) “semi-rigid stirrup” col. 1, ll. 19-20.*

*All of these instances of the term “semi-rigid” are consistent with the applicant’s submission that the term “semi-rigid” has a distinct meaning in this particular art.*

6. The applicant submits that the material from which the brace of Brauer is made does not satisfy the term “semi-rigid.” The material of Brauer is described as “flexible.” Furthermore, the body portion A of Brauer must be capable of being opened out so that it can be fitted around the wearer’s ankle and then closed up by the lacing so as to fit tightly or snugly around the around the wearer’s ankle. Moreover, the brace of Brauer does not conform semi-rigidly to a side surface of a person’s leg, as now required by claim 1. Instead, the body portion A of Brauer conforms flexibly to the side surface of the person’s leg.
7. Claim 1 now specifies that the shell does not extend beyond the upper, lower, forward and rearward extents of the shell, the rearward extent being towards the rear of the person’s leg when the shell is fitted to the person’s leg. By distinct contrast, in Brauer, the portion of the body portion A on one side of the person’s leg does not stop towards the rear of the person’s leg. Instead, it extends around the rear of the person’s leg and then across the opposite side of the person’s leg.
8. Claim 1 furthermore requires the shell to be bifurcated by a slot extending from the upper extent of the shell towards the registration portion. The examiner has identified the opening between the arms of the piece C in Brauer as fulfilling this feature. Although the piece C in Brauer can be considered to be bifurcated, the applicant submits the body portion A of Brauer is not bifurcated. Furthermore, there is no slot disclosed in Brauer that extends from the upper extent of the shell towards the registration portion. If the opening between the arms of piece C in Brauer is considered to be a slot, it goes nowhere near the upper extent of the body portion A.
9. In summary, the applicant therefore submits that claim 1 is distinguished from Brauer by:
  - a. the shell being semi-rigid (rather than flexible) and semi-rigidly (rather than flexibly) conforming to the shape of the person’s leg;
  - b. the shell not extending beyond the rearward extent towards the rear of the person’s leg, whereas in Brauer, the body portion extends all the way around the rear of the person’s leg;
  - c. bifurcation of the shell; and

- d. the slot extending from the upper extent of the shell.
10. Claims 4 to 7, 9 to 13, 15, 16 and 19 are all dependent directly or indirectly on claim 1 and therefore are also distinguished from Brauer for the reasons summarised in paragraph 9 above.
  11. Furthermore, Brauer fails to disclose a registration portion provided by a recess in the inner surface of the shell for covering the protruding part of the ankle bone, as claimed required by claims 7 and 9 to 11.
  12. Moreover, the applicant submits that, with the arrangement shown in Figure 2 of Brauer, the protruding portion of the ankle bone (or the boot covering the ankle bone) cannot contact the piece C, and therefore piece C of Brauer cannot be considered to be the registration portion for the purposes of the claim. If the hole a' in the body portion A is considered to be a registration portion, then it is shown to be circular, and therefore does not satisfy the requirement of claim 11.
  13. Also, with regard to claim 15, there is no disclosure in Brauer that the portion a'' of the body portion A covers the person's anterior talofibular ligament, and indeed it is apparent, from a comparison of Figure 1 of Brauer and Figure 2 of the present application, that it does not.
  14. Although claim 17 is written in independent form, it defines two shells as claimed in claim 1, in combination with strapping means, and is therefore distinguished from Brauer for the reasons summarised in paragraph 9 above. Furthermore, claim 17 has now been amended to specify that, when the shells are fitted to the person's leg and registered with the ankle bone, the forward extents of the shells are spaced from each other and the rearward extents of the shells are spaced from each other. By contrast, in Brauer, the body portion A extends completely around the rear of the person's leg without having any spaced-apart rearward extents.
  15. Claim 18 is dependent on claim 17 and therefore is also distinguished from Brauer for the reasons summarised in paragraphs 9 and 14 above.
  16. Independent claim 21 includes all of the features of claim 1, except for the bifurcating slot. Claim 21 is therefore distinguished from Brauer for the reasons summarised in points "a" and "b" in paragraph 9 above. Furthermore, claim 21 includes the feature of claim 15 and is further distinguished from Brauer for the reason discussed in paragraph 13 above.

### **Claim rejections – 35USC103**

17. Claims 2, 3, 16 and 22 have been rejected under 35 USC 103 as being obvious from Brauer.
18. Claims 2 and 3 are concerned with the width of the slot. As discussed in paragraph 8 above, Brauer does not disclose a slot in accordance with claim 1. Because the body portion A of Brauer is flexible, the applicant submits that providing a slot in Brauer would not serve any useful purpose and is not a matter which would be considered by a person skilled in the art. Applicant therefore submits that the provision of the slot is not obvious from Brauer and consequently any particular dimensions of such a slot are not obvious from Brauer.
19. Claim 16 and 22 are concerned with the size of the projecting portion for covering the person's anterior talofibular ligament. As discussed in paragraph 13 above, Brauer does not disclose a projecting portion in accordance with claims 17 and 21, and there is no suggestion in Brauer of such a projecting portion for covering the person's anterior talofibular ligament. Applicant therefore submits that the any particular dimensions of such a projecting portion for that purpose are not obvious from Brauer.

### **Summary**

20. The other prior art made of record has been considered by the applicant but is not thought to be relevant.
21. The applicant believes that all of the claims as amended herein are patentable having regard to the prior art and respectfully requests allowance of the application.

Respectfully submitted

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